



The operational challenge of getting affordable energy to Alaskan consumers

Neil McMahon
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Alaska Energy Authority: Mission

“To Reduce the Cost of Energy in Alaska”

- AEA is an independent and public corporation of the State of Alaska
- Created by the Alaska Legislature in 1976
- 44.83.070: “ The purpose of the Authority is to promote, develop, and advance the general prosperity and economic welfare of the people of the state by providing a means of financing and operating power projects and facilities that recover and use waste energy and by carrying out the powers and duties assigned to it under AS 42.45.”

Challenges for Affordable Energy

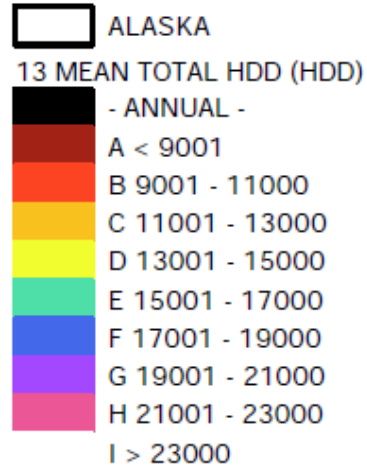
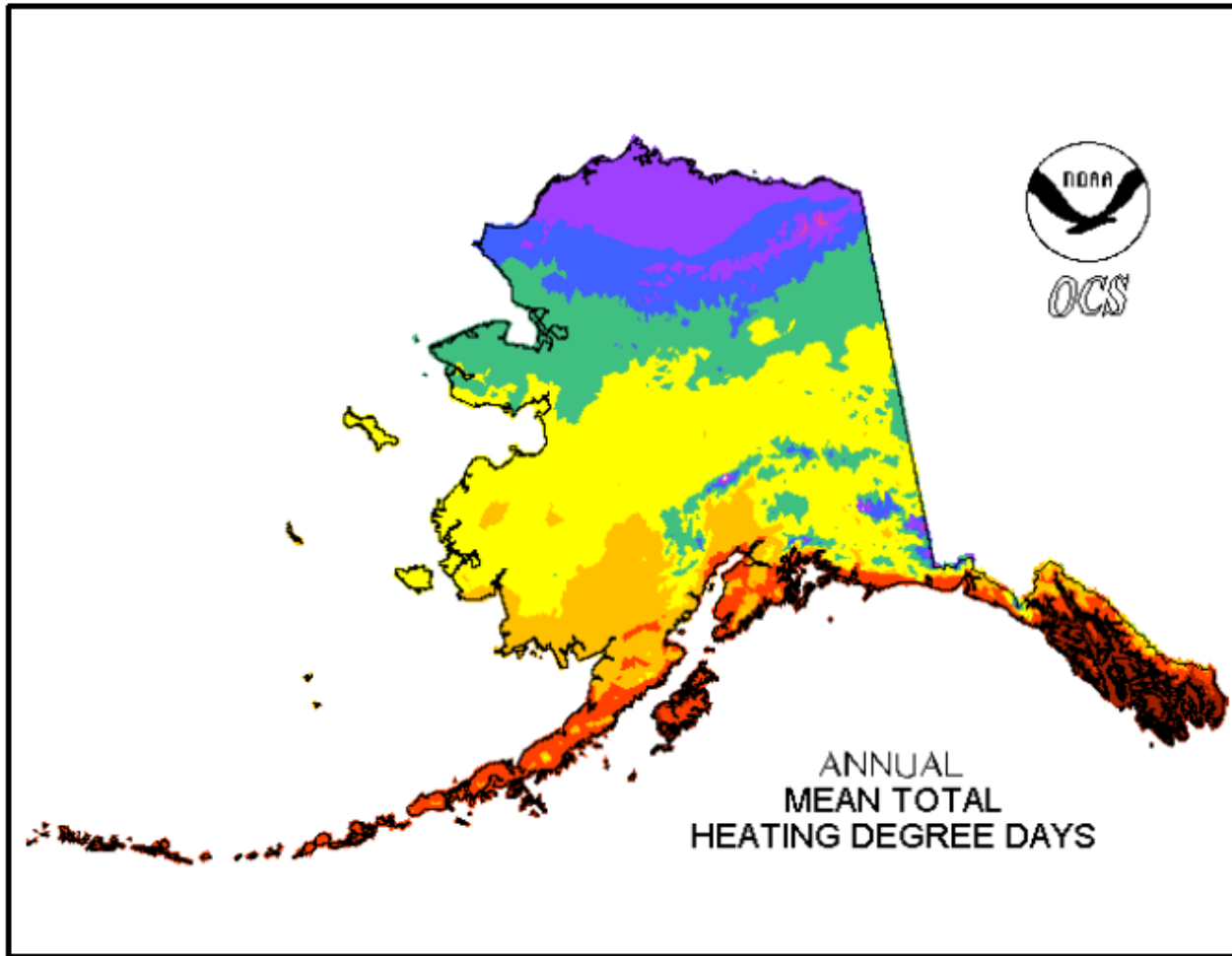
1. Low loads
2. Geographic challenges: distance and climate
3. High prices for heat & electricity

Electricity Generation by Region

Annual Electric Generation

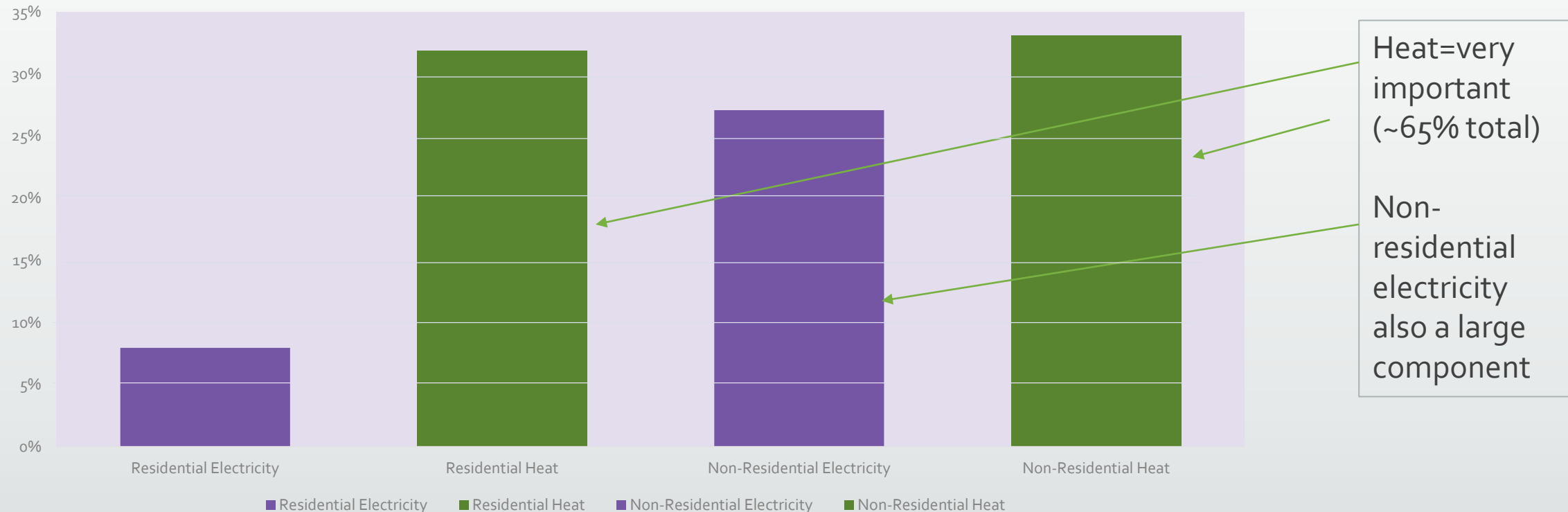
AEA Energy Region	MWhs per Year	Percent of Total
Aleutians	65,340	1%
Bering Straits	55,362	1%
Bristol Bay	55,145	1%
Copper River/Chugach	116,700	2%
Kodiak	150,503	2%
Lower Yukon-Kuskokwim	96,625	1%
North Slope	82,544	1%
Northwest Arctic	35,549	1%
Railbelt	5,075,507	77%
Southeast	785,190	12%
Yukon-Koyukuk/Upper Tanan	31,175	0%
Total	6,549,640	100%

2011 Alaska Energy Statistics



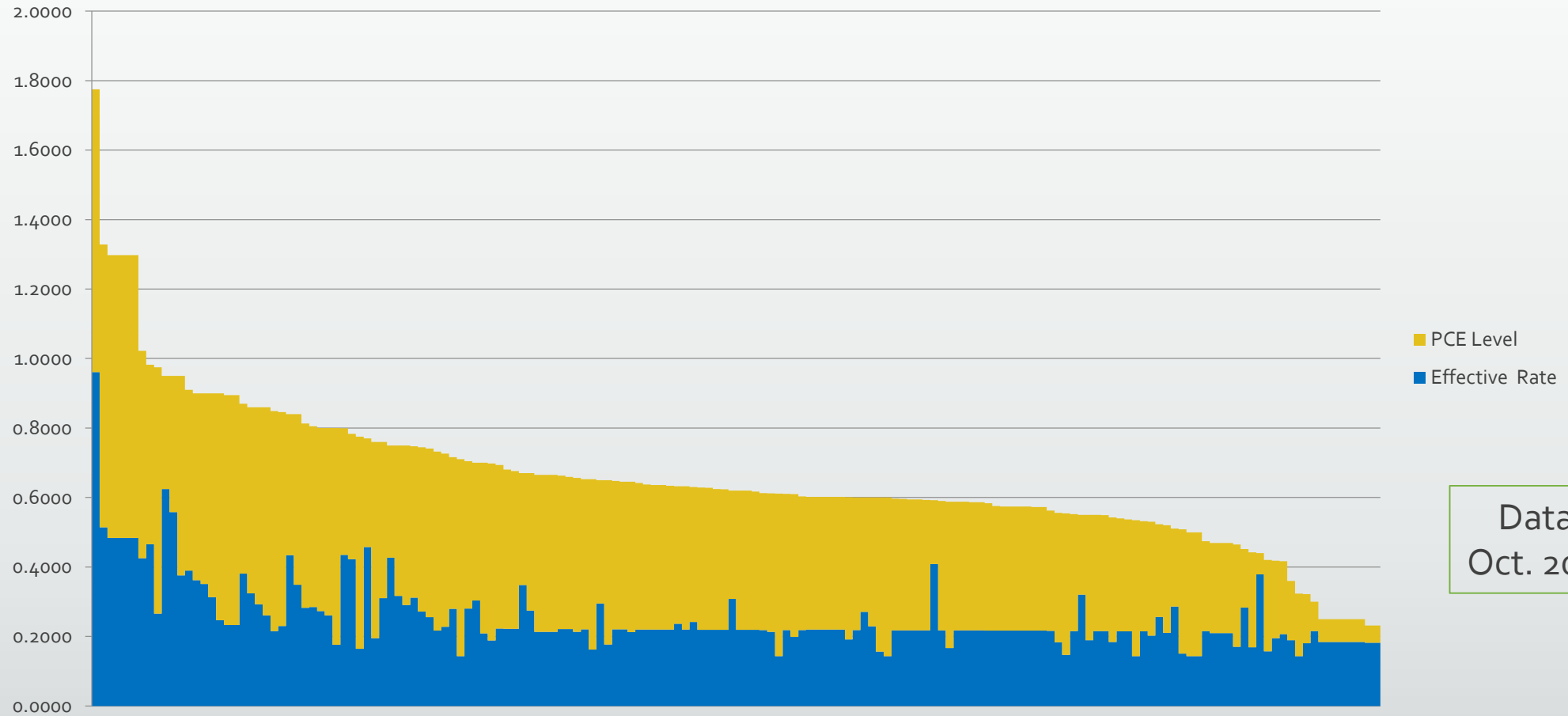
- Cold temperatures create operational challenges for utilities
 - Increases isolation & risks
 - Delivery of fuel & supplies
 - Increased O&M (?)
- Renewable resources
 - Hydro limitations
 - Impacts wind
- Cold temperatures increases energy use for heating

Breakdown of Average Total PCE Community Energy Costs including PCE



Residential & non-residential electricity from PCE. Residential heat from AHFC data. Non-residential heat assumes an 80%/20% ratio for heat to electricity consumed.

PCE: Effect on Rates

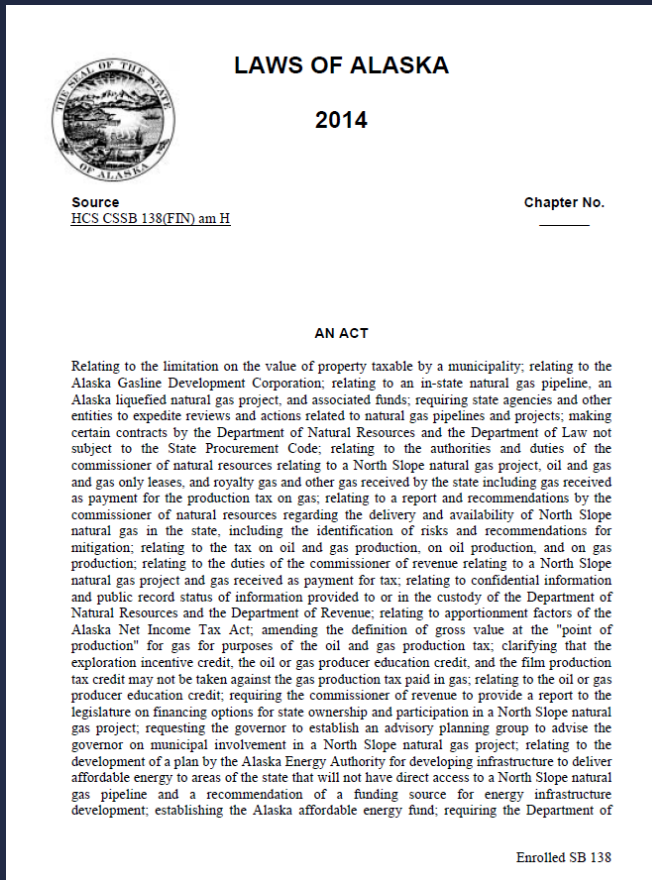


Senate Bill 138

Alaska Affordable Energy Strategy

Plan and recommendations to the Legislature on infrastructure needed to deliver affordable energy to areas in the state that do not have direct access to a North Slope natural gas pipeline.

Due: January 1, 2017



SB 138:

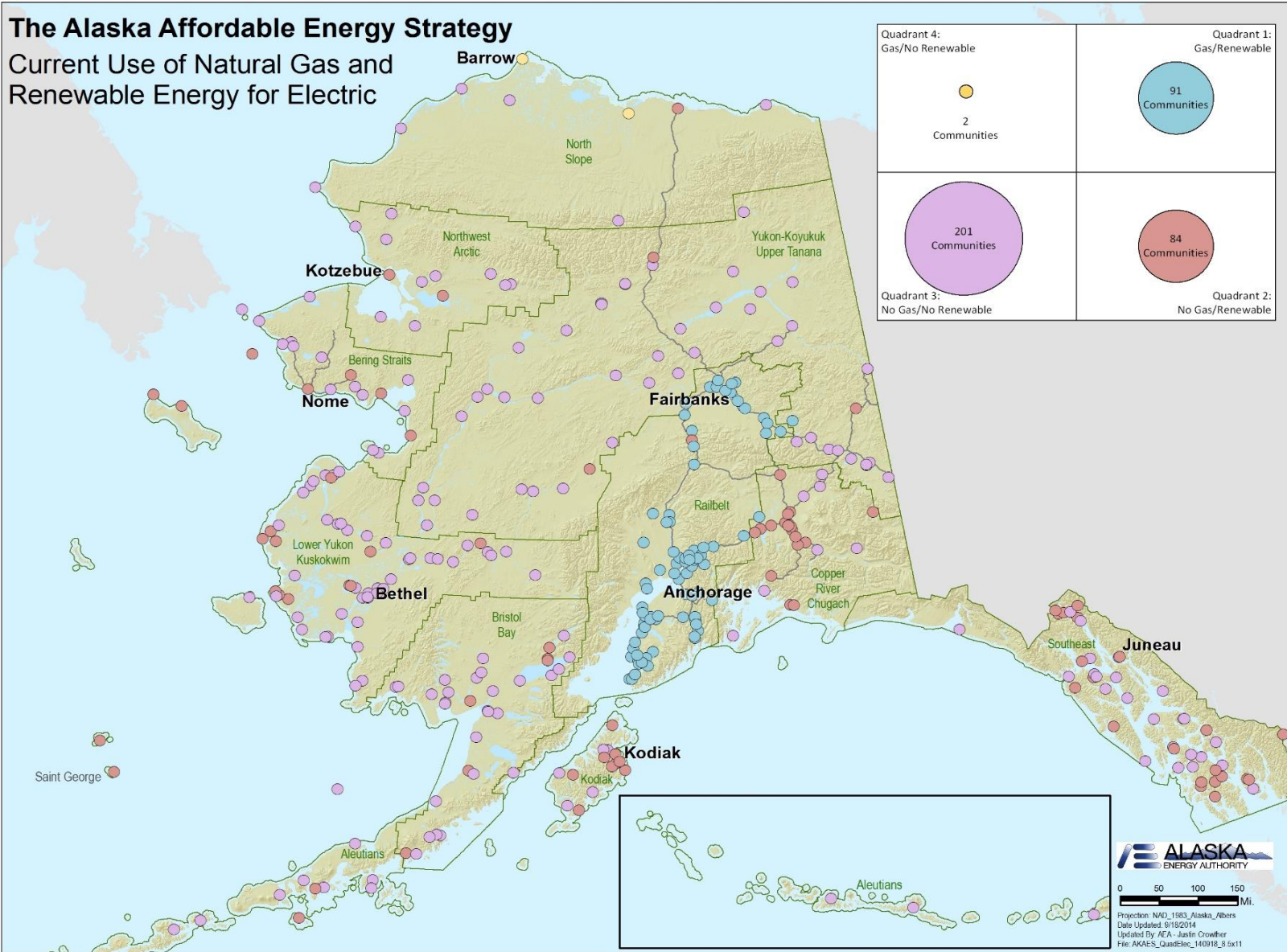
Alaska Affordable Energy Fund

Special account in the general fund to provide a source from which the legislature may appropriate money to develop infrastructure to deliver energy to areas of the state that are not expected to have or do not have direct access to a North Slope natural gas pipeline

- 20 percent of the revenue from the state's royalty gas from an Alaska LNG project (after the payment to the permanent fund)

The Alaska Affordable Energy Strategy

Current Use of Natural Gas and Renewable Energy for Electric



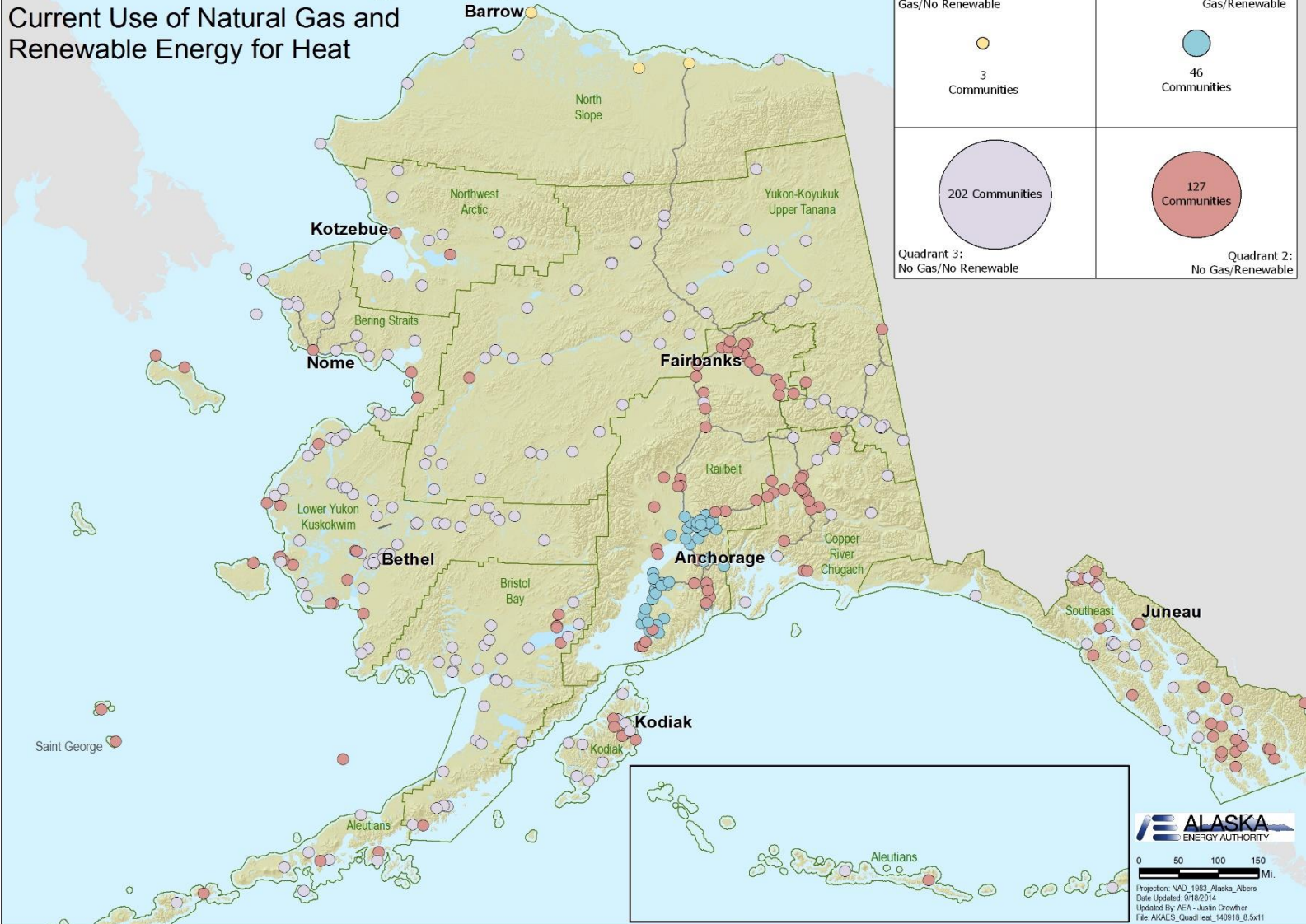
Electricity

4 Quadrants based on Access to Energy Resources:

1. Natural Gas/Renewables
2. No Natural Gas/Renewables
3. No Natural Gas/No Renewables
4. Natural Gas/No Renewables

The Alaska Affordable Energy Strategy

Current Use of Natural Gas and Renewable Energy for Heat



Heat

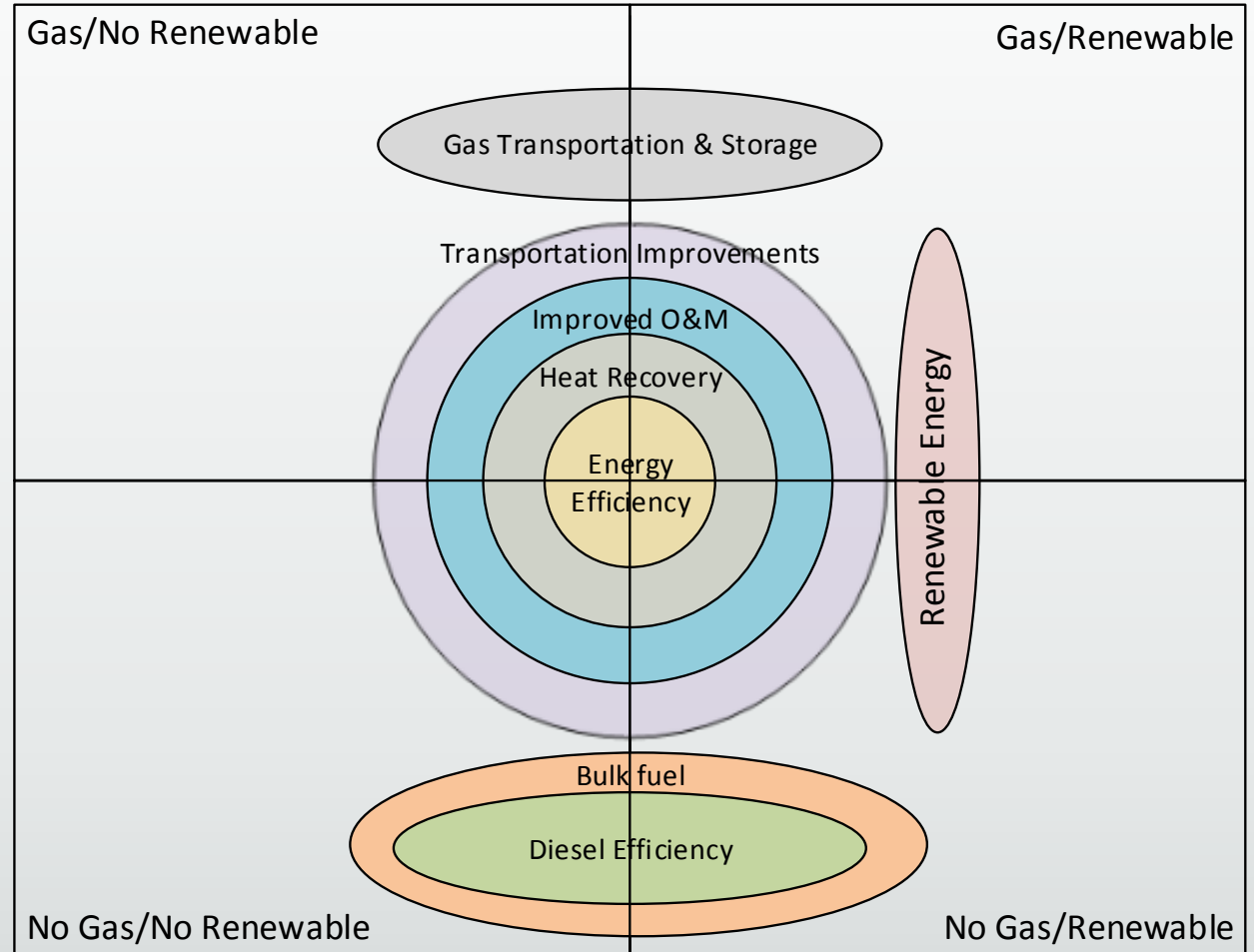
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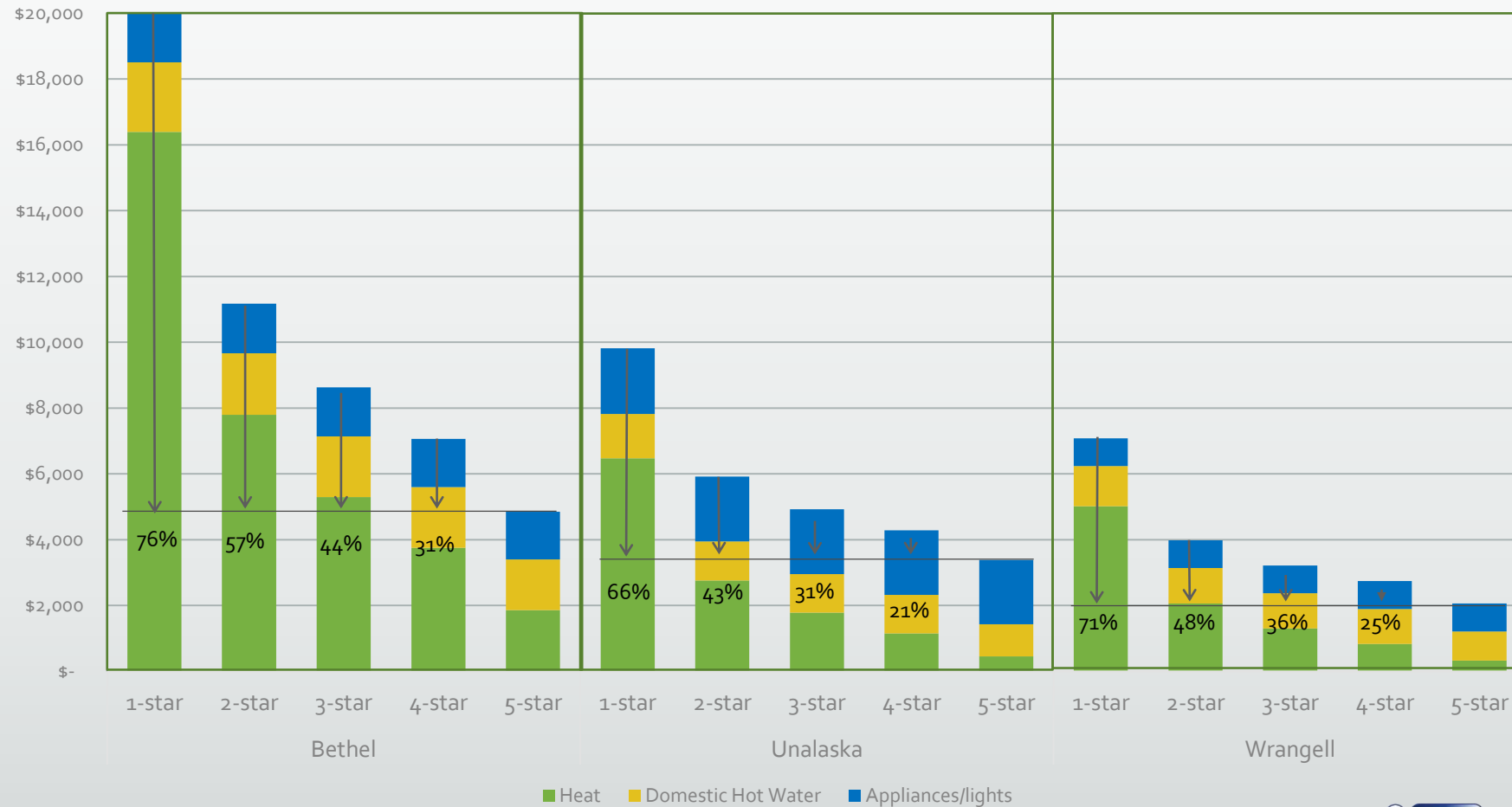
Strategies for More Affordable Energy

Evaluate communities individually on ability to cost-effectively access to renewable energy or natural gas.

Provide funding mechanisms, assistance, and other changes to promote cost-effective measures in communities.



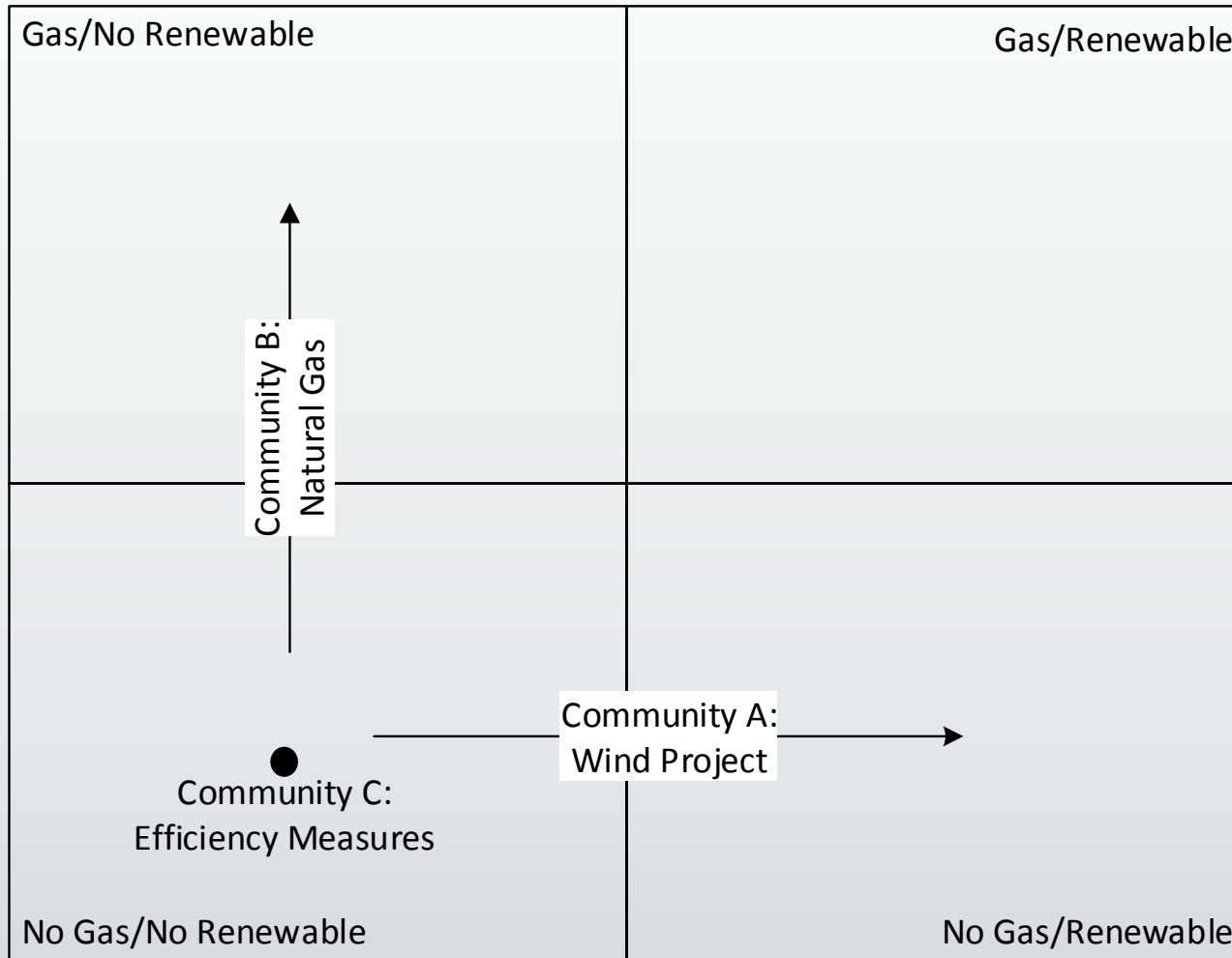
Residential Energy Costs per AHFC Star Rating and Percent of Total Energy Cost Reduction if raised to 5-Star standard



Modeled using AkWARM program assuming 1200 sf, 3 br house, and PCE

Average Housing is rated 2-3 Stars

Cost Effective Measures to Improve Energy Affordability



Cost-Effective Strategies To Improve Energy Affordability

AKEnergyAuthority.org

